



Features

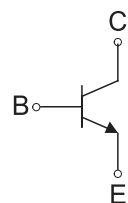
- High Current
- Complement To BD135/BD137/BD139



TO-126

Package Marking and Ordering Information

Product ID	Pack	Packing Method	Qty(PCS)
BD136/BD138 /BD140	TO-126	Bulk	200



Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	BD136	V
		BD138	
		BD140	
V _{CEO}	Collector-Emitter Voltage	BD136	V
		BD138	
		BD140	
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current -Continuous	-1.5	A
P _C	Collector Dissipation	1	W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃



Electrical Characteristics(Ta=25°C unless otherwise specified)

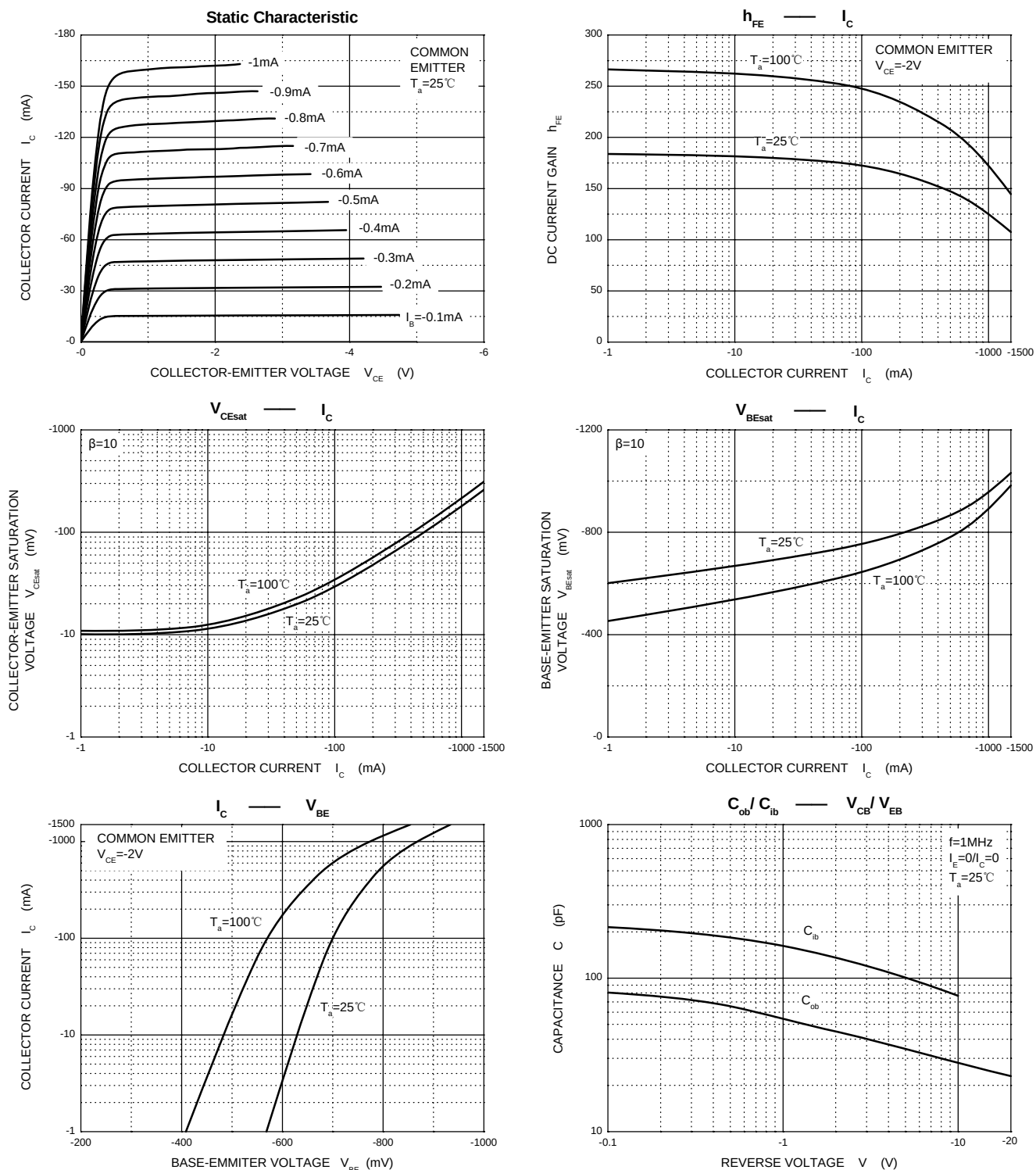
Parameter	symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1mA, I_E=0$ BD136 BD138 BD140	-45 -60 -80		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.03A, I_B=0$ BD136 BD138 BD140	-45 -60 -80		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	-6		V
Collector cut-off current	I_{CBO}	$V_{CB}=100V, I_E=0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=100V, I_B=0$		-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$		-0.1	μA
DC current gain	h_{FE1}	$V_{CE}=2V, I_C=0.15A$	40	300	
	h_{FE2}	$V_{CE}=2V, I_C=5mA$	25		
	h_{FE3}	$V_{CE}=2V, I_C=0.5A$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=0.15A$		0.5	V
Transition frequency	f_T	$V_{CE}=-5V, I_C=-100mA, f=10MHz$	50		MHz

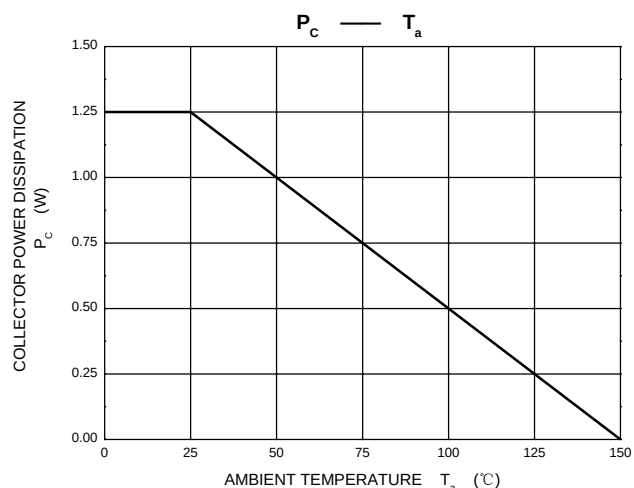
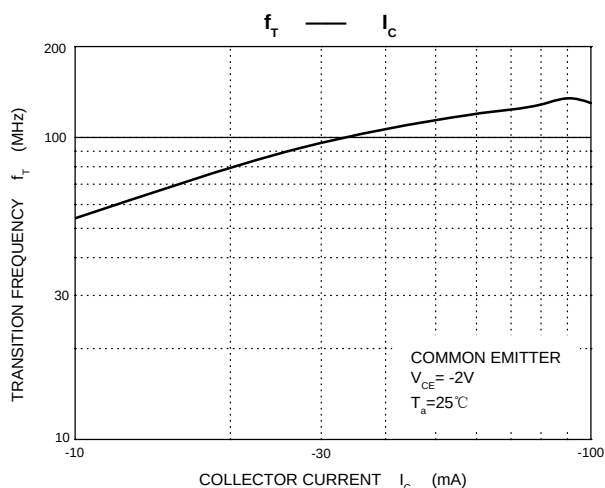
Classification Of h_{FE}

Rank	BD136/BD138/BD140	BD136-10/BD138-10/ BD140-10	BD136-16/BD138-16/ BD140-16
Range	40-100	63-160	100-300

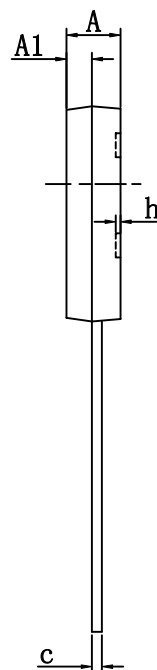
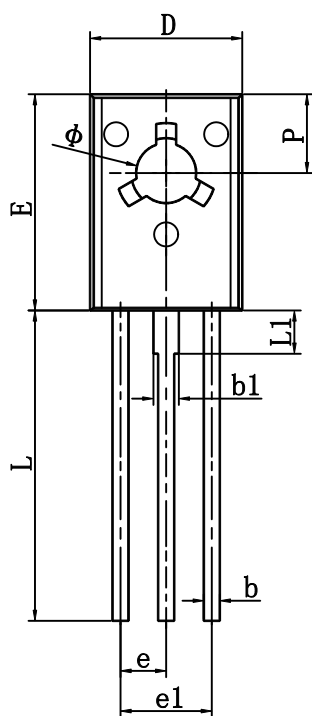


Typical Characteristics





TO-18 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Φ	3.000	3.200	0.118	0.126



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